

IOC/UNESCO Bulletin No. 28
As of 18 August 2011

Casualties by the Earthquake and Tsunami

The National Police Agency

as of	17-Aug-11	
Death Toll	15,703	
Missing	4,647	
	Death	Missing
Iwate	4,637	2,022
Miyagi	9,397	2,373
Fukushima	1,603	248
	15,637	4,643

<http://www.npa.go.jp/archive/keibi/biki/higaijokyo.pdf>

Tsunami damages (*Blue part is new*)

Prefecture	City, Town, Village	dead	missing
Iwate	Hirono T	0	0
	Kuji C	2	2
	Noda V	38	0
	Fudai V	0	1
	Tanohata V	14	19
	Iwaizumi T	7	0
	Miyako C	420	126
	Yamada T	597	254
	Otsuchi T	797	653
	Kamaishi C	881	299
	Ofunato C	333	117
	Rikuzen-Takata C	1,546	549
Miyagi	Kesennuma C	1,004	409
	Minami-Sanriku T	551	437
	Ishinomaki C	3,156	849
	Onagawa T	539	414
	Higashi-Matsushima C	1,045	100
	Matsushima T	2	0
	Rifu T	1	1
	Shiogama C	20	1
	Shichigahama T	66	6
	Tagajyo C	188	2

	Sendai	704	33
	Natori C	911	80
	Iwanuma C	183	1
	Watari T	256	5
	Yamamoto T	670	22
Fukushima	Shinchi T	108	2
	Souma C	454	5
	Minami-Souma C	633	38
	Namie T	143	41
	Futaba T	29	6
	Okuma T	74	1
	Tomioka T	19	6
	Naraha T	11	2
	Hirono T	2	1
	Iwaki C	310	3

<http://sv032.office.pref.iwate.jp/~bousai/>

<http://www.pref.miyagi.jp/kikitaisaku/higasinihondaisinsai/higaizyoukyou.htm>

<http://www.pref.fukushima.jp/j/index.htm#3>

Miyagi Prefecture Basic Disaster Reconstruction Policy (Draft)

http://www.pref.miyagi.jp/kokusai/en/BDR_policy_draft.htm

Outline of Miyagi Prefecture Basic Disaster Reconstruction Policy (Draft)

~ The bond between Miyagi, Tohoku and Japan - from Recovery to Prosperity ~

http://www.pref.miyagi.jp/kokusai/en/BDR_policy_outline.htm

White Paper on disaster Management 2011

http://www.bousai.go.jp/hakusho/WPDM2011_Summary.pdf

Preliminary report on the disaster by MLIT

<http://www.mlit.go.jp/common/000162533.pdf>

Figures in page 5 show the relation between Inundation depth and house damages.

Dark brown: washed out

Red: completely destroyed

Orange: completely destroyed and inundated up to ceiling of ground floor

Yellow: severely half destruction

Blue: half destruction (inundated depth is below floor)

Gray: no damage

White: Unknown

Vertical axis: inundation depth in meter

Upper Figure in Page 5: for all tsunami inundated areas in %

Note: Big difference appears at the threshold of 2 m inundation depth.

Lower Figure in Page 5: for all tsunami inundated areas in number of houses

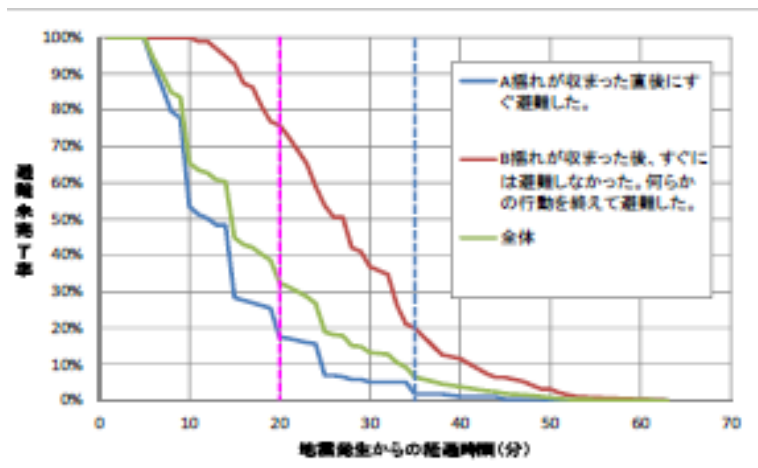
Upper Figure in Page 6: Northern part of Ishinomaki City, Miyagi in %
Lower Figure in Page 6: Southern part of Ishinomaki (Plain area) in %

Upper Figure in Page 6: Northern part of Ishinomaki City, Miyagi in number of houses
Lower Figure in Page 6: Southern part of Ishinomaki (Plain area) in number of houses

Emergent evacuation

<http://www.bousai.go.jp/jishin/chubou/higashinihon/7/5.pdf>

Below figure is taken from above site; in page 9



This is a preliminary analysis and need further detail analysis.

Horizontal axis: elapse time from the earthquake in minute.

Vertical axis: Non-completeness ratio of evacuation.

Blue: immediately start the evacuation just after the strong shaking terminates

Red: After the strong shaking terminate, took some action such as looking for family and children, go back to home etc. Then start the evacuation.

Green: Whole

Basic information for the consideration Tsunami Reconstruction Plan of Iwate Prefecture

http://www.pref.iwate.jp/~hp0212/fukkou_net/pdf_doc/kihonkeikaku_sankou.pdf

Photos before and after. Red ellipse indicates the severely damaged area.

Page 10: Tarou, Miyako, Iwate

Page 11: Yamada fishing port, Yamada town

Page 12: Otsuchi Town

Page 13 Takada coast, Rikuzen-Takada City

Page 14: Fujiwara and Kuwagasaki District, Miyako city

Page 15: Kamaishi port, Kamaishi City

Page 16: Ofunato port, Ofunato City

Page 17: Kuji Port, Kuji City

Damages of seawalls

Page 18: Northern part of Iwate Pref

Page 19: Southern part of Iwate

The horizontal length of Blue bar in the center of the figure indicates the height of seawall at each port from north (upper) to south (lower) along Iwate coast.

These heights are designed taking into account the past tsunami such as 1896, 1933, 1960 etc.

Red line shows the observed tsunami height by the 2011 tsunami.

The observed tsunami heights exceed than the expected tsunami height at most of ports except Fudai.

(After Asahi Newspaper on 18 Aug 2011.)

<http://www.asahi.com/national/update/0818/TKY201108180171.html>

The color of the tsunami warning areas on TV was revised taking into account for people who have color blindness. All TV stations in Japan will use same colors.

Major Tsunami Warning area: Purple

Tsunami Warning area: Red

Tsunami Advisory area: Yellow

Land: Gray

Ocean: Dark blue



津波速報の色づかいを新たにした速報システムのサンプル画面。大津波警報は紫、津波警報は赤、津波注意報は黄色で表示される。陸地は灰色、海は濃い青＝日本テレビ提供

記事「津波警報、テレビ各局が色を統一 色覚障害などに配慮」より